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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,950	07/21/2004	Kyosti Valta	43289-205707	3429

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EXAMINER	
WHITE, EVERETT NMN	
ART UNIT	PAPER NUMBER
1623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/501,950	VALTA ET AL.	
	Examiner	Art Unit	
	Everett White	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 12, 2007 has been entered.

2. The amendment filed February 12, 2007 has been received, entered and carefully considered. The amendment affects the instant application accordingly:

(A) Claim 4 has been canceled;
(B) New Claim 32 has been added;
(C) Claim 1 has been amended;
(D) Comments regarding Office Action have been provided drawn to:
  (I) 102(b) rejection, which has been withdrawn;
  (II) 103(a) rejection, which has been maintained for the reasons of record.

3. Claims 1-3 and 5-32 are pending in the case.

4. The text of those sections of Title 35, U. S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

(New Ground of Rejection)

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 32, the metes and bounds for the term "elevated temperature" cannot be determined which renders the claim indefinite. The intended elevated temperature the claim is referring to would be difficult to described because the temperature has not been particularly pointed out or distinctly articulated in the claim.

7. Applicant's arguments with respect to claim 32 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

8. Claims 1-3 and 5-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahman et al (EP 402606, already of record) in view of Hill et al (US Patent No. 2,134,825, already of record).

Applicants claim a method for manufacturing cellulose carbamate, wherein an auxiliary agent and urea are absorbed into cellulose, and a reaction between cellulose and urea is carried out in a mixture containing cellulose, a liquid, the auxiliary agent, and urea, wherein the liquid content in the mixture is less than 40% and subjecting the mixture to mechanical working, thereby at least partially performing at least one of enhancing the absorption of the auxiliary agent and urea to the cellulose or perfroing the reaction between the cellulose and urea, wherein said mechanical working comprises compressing, rubbing, and stretching the mixture a plurality of times. Additional limitations in the dependent claims include the auxiliary agent being hydrogen peroxide; the method wherein the liquid is more than 50% water; the method having a specific processing time; and the method wherein the cellulose used is of a specific size.

The Rahman et al publication discloses synthesis of a cellulose aminomethanate (which is identical to cellulose carbamate) in Example IV, wherein initially 1807 grams of sulfate pulp is steep in 21 kilograms of steep liquor containing 3.0% sodium hydroxide and 20.0% urea. The sodium hydroxide in this example embraces the alkalizing agent disclosed in instant the instant claims. This description suggests a reaction medium containing about 40% liquids, which embraces the amount of liquid disclosed in the instant claims.

The method of manufacturing cellulose carbamate in the instant claims differs from the cellulose carbamate preparation of the Rahman et al publication by claiming that the auxiliary agent thereof may be selected as hydrogen peroxide and describing the mechanical working to comprise compressing, rubbing, and stretching the mixture a plurality of times.

The Hill et al patent shows that the use of hydrogen peroxide to prepare cellulose carbamate (referred to as urea-cellulose in the Hill et al patent) is well known in the art. See page 2, 1st column, line 72 to 2nd column, line 13, wherein hydrogen peroxide may be used to control the viscosity of the solution comprising the urea-cellulose (or cellulose carbamate). See page 2, 2nd column, lines 9-12 wherein the hydrogen peroxide can be added to the steeping bath thereof and the caustic soda may or may not be omitted therefrom, as desired, when hydrogen peroxide is present, which suggests the substitution of hydrogen peroxide with caustic soda (which is sodium hydroxide). See page 2, 2nd column, 3rd paragraph of the Hill et al patent, wherein a general procedure for preparing cellulose carbamate is described which involves passing a sheeted cellulose at a suitable rate through a steeping bath, then through squeeze rolls which press out the excess steeping liquor; the impregnated sheets may then be passed through a hot air-blast oven which continuously dries and bakes the sheets at any desired temperature and for any desired period of time, thus causing the urea to react with the cellulose. This description of the Hill et al patent embraces the mechanical working described in instant Claims 5-9, 21, 22 and 26-30. See page 3, 1st column, lines 39-41 of the Hill et al patent, wherein water is suggested as the liquid of choice of the steeping bath, wherein certain organic solvents may be substituted therefor. This description embraces the subject matter of instant Claims 10 and 23-25, which describes the amount of water contained in the liquid. The amount of liquid disclosed in the mixture set forth in instant Claims 17-19 is noted, but does not indicate reason for allowance of the instant claims since proportions of ingredients, to impart patentability to an otherwise obvious chemical composition, must produce more than a mere difference in degree in the properties of the composition. *In re Fields* (CCPA 1962) 304 F2d 691, 134 USPQ 242. The proportions must be critical, i.e., they must

produce a difference in kind rather than degree. *In re Touvay et al.* (CCPA 1958) 264 F2d 901, 121 USPQ 265; *In re Selmi et al.* (CCPA 1946) 156 F2d 96, 70 USPQ 197; *In re Waite* (CCPA 1948) 168 F2d 104, 77 USPQ 586. No patentable difference in the cellulose carbamate of the instant claims and the prior art is noted.

A person of ordinary skill in this art would be motivated to combine the teachings of the Rahman publication with the teachings of the Hill et al patent since both references disclose cellulose carbamate compounds and preparations thereof.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the sodium hydroxide disclosed in the steeping bath for preparing cellulose carbamate of the Rahman et al publication with hydrogen peroxide in view of the recognition in the art, as evidenced by the Hill et al patent, that use of hydrogen peroxide is an effective agent for controlling the viscosity of cellulose carbamate.

Response to Arguments

9. Applicant's arguments filed February 12, 2007 have been fully considered but they are not persuasive. Applicants amended Claim 1 by describing "mechanical working" as comprising "compressing, rubbing, and stretching the mixture a plurality of times." However, the description disclosed in the Hill et al patent on page 2, 2nd column, 3rd paragraph, wherein the mixture is "passed through squeeze rolls which press out the excess steeping liquor" embraces the description of the mechanical working in instant Claim 1. Accordingly, the rejection of the claims under 35 U.S.C. 103(a) as being unpatentable over the Rahman et al EP patent in view of the Hill et al patent is maintained for the reasons of record.

Summary

10. All the pending claims are rejected.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner's Telephone Number, Fax Number, and Other Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is 571-272-0660. The examiner can normally be reached on 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

3/5/07

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